ENGINEERING AND DESIGN GUIDANCE PUBLICATIONS

Doug H. Wilson, P.E.
CEHNC-PM-CR
(205) 895-1533

INTRODUCTION

The Corps of Engineers uses many publications to govern engineering and design. The task of finding what is needed can be greatly simplified if one knows where to look and what to expect. The Department of Defense (DOD), Office of the Deputy Assistant Secretary of Defense for Installations, publishes engineering and design requirements in several types of documents. However, these requirements are usually in the form of broad policy guidance which has no force or effect on design offices until implemented by the heads of the military departments and their subordinate agencies. Therefore, for all practical purposes design offices are not directly concerned about guidance in DOD documents. A similar situation exists in the implementation of federal regulations and other extremely-high-level documents containing engineering and design guidance.

The situation with the Department of the Army (DA) gets close to home. DA regulates the publication process of its agencies through a series of DA publications. The general policy regarding publications and printing within DA is contained in AR 25-1 The Army Information Resources Management Program. More detailed requirements regarding preparation, printing, and distribution of publications are contained in AR 25-30 The Army Integrated publishing and Printing Program.

Over 30 different types of publications are used by the DA, and these publications fall into 3 categories: Administrative Publications; Doctrinal, Training, and Organization Publications; and Technical and Equipment Publications. The main DA publications which provide engineering and design guidance are: Army Regulations (AR); DA Circulars (DA CIR); DA Pamphlets (DA PAM); Numbered HQDA Letters; DA Technical Bulletins (TB); and DA Technical Manuals (TM). Proponents of these publications are normally agencies of HQDA and thus proponents are required to coordinate their publications with other HQDA agencies which have responsibilities in the same functional areas.

Since DA permits agencies to have parallel publications to address subjects of agency-wide application, the Corps has established:

Engineer Regulations (ER); Engineer Circulars (EC); Engineer Pamphlets (EP); Engineer Technical Letters (ETL); Engineering Improvement Recommendation System (EIRS) Bulletins; Engineer Manuals (EM); Engineer Instructions (EI); and special use publications such as guide specifications (CEGS) and design guides (DG).

One of the main differences between similar DA and Corps publications is their applicability, i.e., an Army Regulation is applicable Army-wide and an Engineer Regulation is applicable Corps-wide. Guide specifications and design guides have no direct counterpart in the DA system but are needed in the conduct of Corps business. The following sections provide information regarding publications which are frequently used to provide engineering and design guidance.

DEPARTMENT OF THE ARMY REGULATIONS (AR)

1. DESCRIPTION. An Army Regulation (AR) is a directive that sets forth missions, responsibilities, and policies and establishes procedures to ensure uniform compliance with those policies. Army Regulations are administrative publications which direct, indicate or point out.

2. APPLICABILITY. Army Regulations are applicable to the Active Army, the Army National Guard, and the U.S. Army Reserve as stated.

3. EXPECTED LIFE. An AR is in force until superseded or rescinded.

4. PROPONENT. HQDA agencies or MACOM.

5. AVAILABILITY. U.S. Army Publications Distribution Center.

6. REVISIONS. Reviewed and revised as needed.

CORPS OF ENGINEERS REGULATIONS (ER)

1. DESCRIPTION. Engineer Regulations (ERs) provide principles and policy procedures on subjects other than those covered by Army Regulations or provide additional guidance on subjects covered by Army Regulations. Engineer Regulations are publications which direct, indicate, or point out.

2. APPLICABILITY. Engineer Regulations are applicable to

organizations within the Corps of Engineers.

3. EXPECTED LIFE. An ER is in force until superseded or rescinded.

4. PROPONENT. HQUSACE elements.

5. AVAILABILITY. Corps of Engineers Publications Depot, through TECHINFO on the Internet, and the Construction Criteria Base (CCB) compact disk.

6. REVISIONS. Reviewed and revised as needed.

DEPARTMENT OF THE ARMY CIRCULAR (DA CIR)

1. DESCRIPTION. A Department of Army circular (DA CIR) is a publication dealing with administrative matters. A DA circular may serve to direct, indicate or to point out, as applicable; or may be an information only publication.

2. APPLICABILITY. Army circulars are applicable to the Active Army, the Army National Guard, and the Army Reserve as stated.

3. EXPECTED LIFE. In general DA Circulars (DA CIRs) dated prior to 1 May 1982 expire after one year. Circulars dated after 1 May 1982 usually expire 2 years after their publication dates.

4. PROPONENT. HQDA agencies or MACOM.

5. AVAILABILITY. U.S. Army Publications Distribution Center.

6. REVISIONS. None since the document expires 2 years after issue.

CORPS OF ENGINEERS CIRCULAR (EC)

1. DESCRIPTION. An Engineer Circular (EC) is a publication dealing with administrative matters, such as status reports. An EC may serve to direct, indicate, or to point out, as applicable; or may be an information only publication.

2. APPLICABILITY. Engineer Circulars are applicable to organizations within the Corps of Engineers.

3. EXPECTED LIFE. Expires 2 years or less after date of issue.

4. PROPONENT. HQUSACE elements.

5. AVAILABILITY. Corps of Engineers Publication Depot, through TECHINFO on the Internet, and The Construction Criteria Base (CCB) compact disk.

6. REVISIONS. None since the document expires 2 years after issue.

DEPARTMENT OF THE ARMY PAMPHLET (DA PAM)

1. DESCRIPTION. A Department of the Army Pamphlet (DA PAM) is an administrative type publication dealing with stated subject matter, such as quality of life program evaluation. A DA PAM is minor nature guidance or directional material. The two basic types of pamphlets are standard and informational. A standard pamphlet is organized and printed in the same format as an AR. An informational pamphlet has no set organization or format.

2. APPLICABILITY. Army Pamphlets are applicable to the Active Army, the Army National Guard, and the Army Reserve as stated.

3. EXPECTED LIFE. Army Pamphlets are continuing information which is effective until superseded or rescinded.

4. PROPONENT. HQDA agencies or MACOM.

5. AVAILABILITY. U.S. Army Publications Distribution Center 1655 Woodson Road, St. Louis, MO 63114-6181 (Phone 314-263-7305).

6. REVISION. Reviewed and revised as needed.

CORPS OF ENGINEERS PAMPHLET (EP)

1. DESCRIPTION. An Engineer Pamphlet (EP) is an administrative type publication used to provide information such as a publications index.

2. APPLICABILITY. Engineer Pamphlets are applicable to organizations within the Corps of Engineers.

3. EXPECTED LIFE. An EP is in force until superseded or rescinded.

4. PROPONENT. HQUSACE elements.

5. AVAILABILITY. Corps of Engineers Publications Depot, through TECHINFO on the Internet, and The Construction Criteria Base (CCB) compact disk.

6. REVISIONS. Reviewed and revised as needed.

DEPARTMENT OF THE ARMY NUMBERED HQDA LETTERS

1. DESCRIPTION. A Numbered HQDA Letter is a directive or information publication that has a limited distribution. A Numbered HQDA Letter may be mandatory, serving to direct, indicate, or to point out, as applicable; or may an information only publication.

2. APPLICABILITY. Applies to HQDA agencies and MACOMS in the Washington area.

3. EXPECTED LIFE. Numbered HQDA Letters are effective 2 years or less.

4. PROPONENT. Only HQDA agencies (OSA, OCSA, and the Army Staff) will be the proponents of Numbered HQDA Letters.

5. AVAILABILITY. All Numbered HQDA Letters are issued to special mailing lists provided by the proponent of each letter. These HQDA Letters are ID ONLY with no stock available. Questions concerning content or additional copies must be addressed to the proponent of the specific letter in question.

6. REVISIONS. None since the document expires 2 years after issue.

CORPS OF ENGINEERS TECHNICAL LETTER (ETL)

1. DESCRIPTION. An Engineer Technical Letter (ETL) is a temporary directive or informational publication that has a limited distribution dealing with engineering and design matter. An ETL can be mandatory or may be an information only publication.

2. APPLICABILITY. Engineer Technical Letters are applicable to organizations with the Corps of Engineers.

3. EXPECTED LIFE. Engineer Technical Letters are effective until superseded or rescinded.

4. PROPONENT. HQUSACE elements.

5. AVAILABILITY. Corps of Engineers Publications Depot, through TECHINFO on the Internet, and the Construction Criteria Base (CCB) compact disk.

6. REVISIONS. Revisions are not permitted.

7. FUNDING. HQUSACE proponent.

8. NUMBERING. Uses a series number according to the subject of the letter, plus a single digit to indicate the function within the Corps to which the publication applies, plus an identifier number to distinguish between other ETL's. Example: ETL 1110-3-427; where 1110 has been established by the Corps for engineering and design type documents; the number 3 indicates applicability to military programs only; and the 427 which is the unique identifier established by HQUSACE-CEIM when the document was published.

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN (TB)

1. DESCRIPTION. A technical Bulletin (TB) is a publication that contains information, procedures, and techniques of a technical or professional nature indirectly related to engineering and design. A Technical Bulletin may contain official or unofficial items of an advisory, informative, or directive nature.

2. APPLICABILITY. Army Technical Bulletins are applicable to the Active Army, the Army National Guard, and the Army Reserve as stated.

3. EXPECTED LIFE. Technical bulletins are effective until superseded or rescinded.

4. PROPONENT. HQDA agencies.

5. AVAILABILITY. U.S. Army Publications Distribution Center 1655 Woodson Road, St Louis, MO 63114-6181 (Phone 314-263-7305).

6. REVISIONS. Reviewed approximately every 5 years to determine need for revisions.

CORPS OF ENGINEERS, ENGINEERING IMPROVEMENT RECOMMENDATION (EIRS) BULLETIN

1. DESCRIPTION. An EIRS bulletin is a publication that contains information, procedures, and techniques of a technical or

professional nature indirectly related to engineering and design for implementation of recommendations through feedback. An EIRS may contain official or unofficial items of an advisory, informative, or directive nature.

2. APPLICABILITY. The EIRS are applicable to organizations within the Corps of Engineers.

3. EXPECTED LIFE. The EIRS are effective until replaced by permanent criteria.

4. PROPONENT. HQUSACE elements.

5. AVAILABILITY. Corps of Engineers Publications Depot, through TECHINFO on the Internet, and the Construction Criteria Base (CCB) compact disk.

6. REVISIONS. None.

7. FUNDING. HQUSACE proponent.

8. NUMBERING. Uses a number according to the year of the EIRS and a sub-number to establish sequence. Example: March 1992 92-10; where 92 indicates the year of the EIRS and the number 10 which is the unique identifier established by HQUSACE-CEIM when the document was published.

DEPARTMENT OF THE ARMY TECHNICAL MANUAL (TM)

1. DESCRIPTION. Technical Manuals (TM) provide guidance for the design of facilities for the Army. A TM contains general technical and design requirements in tune with policy but do not establish new policy. TMs are consistent with established practices of contract administration and permit limited innovation in selected projects.

2. APPLICABILITY. Army Technical Manuals are applicable to organizations within the Corps of Engineers and the Department of the Army.

3. EXPECTED LIFE. Technical Manuals are in force until they are canceled or superseded.

4. PROPONENT. HQDA agencies.

5. Availability. U.S. Army publications Distributions Center and on the Construction Criteria Base (CCB) compact disk.

6. REVISIONS. Reviewed by the technical representative approximately every 5 years to determine need for revisions or cancellation.

7. FUNDING. HQDA proponent agency.

8. NUMBERING. Uses a series number according to the area of applicability of the TM plus a 3 digit number to indicate the subject material of the TM, plus an identifier number to distinguish between other manuals on a similar subject. Example: TM 5-8XX-X; where 5 has been established in AR 25-30 as the technical series number for engineering. The number 8XX indicates a specific subject area and the number X which is the unique identifier. Numbers within the 5-800 series criteria and guidance publications are established by HQUSACE-CEIM upon recommendations by the Huntsville Engineering and Support Center (CEHNC-ED-ES).

CORPS OF ENGINEERS MANUAL (EM)

1. DESCRIPTION. Engineer Manuals (EM) provide guidance for the design of facilities for Corps projects. An EM contains general technical and design requirements consistent with established practices for contract administration and permit limited innovation in selected projects.

2. APPLICABILITY. Engineer Manuals are applicable to organizations within the Corps of Engineers.

3. EXPECTED LIFE. Engineer Manuals are in force until superseded or rescinded.

4. PROPONENT. HQUSACE elements.

5. AVAILABILITY. Corps of Engineers Publications Depot, through TECHINFO on the Internet, and the Construction Criteria Base (CCB) compact disk.

6. REVISIONS. Reviewed by the technical representative approximately every 5 years to determine need for revisions or cancellation.

CORPS OF ENGINEERS ENGINEERING INSTRUCTIONS (EI)

1. DESCRIPTION: Engineering Instructions (EI) provide design

criteria and guidance for the Corps of Engineers. Engineering Instructions serve as a guide when planning, programming, and designing new construction for military facilities at Army installations.

2. APPLICABILITY: Corps of Engineers Major Subordinate Commands (MSC), Districts, and Field Operating Activities (FOA).

3. EXPECTED LIFE: Engineering Instructions are in force until they are cancelled or superseded.

4. PROPONENT: HQUSACE elements.

5. AVAILABILITY. Engineering Instructions are distributed only in electronic media, primarily through TECHINFO on the Internet, and the Construction Criteria Base (CCB) compact disk.

6. REVISIONS. Periodically reviewed and updated as required by the responsible HQUSACE elements of the discipline involved.

7. FUNDING. HQUSACE proponent agency.

8. NUMBERING. The EI numbering system consists of an identifying prefix “EI” followed by a space, then an alpha-numerical designation (e.e., EI 09A001). The first two digits of the alpha-numerical designation identify which division of the Construction Specifications Institute (CSI) MasterFormat divisions pertain to the subject matter of the EI. The alpha portion of the designator identifies the major discipline of the subject matter as follows:

“A”	architectural	“F”	fire protection
“C”	civil	“M”	mechanical
“D”	cost engineering	“P”	protective design
“E”	electrical	“S”	structural
“G”	geotechnical	“X”	general guidance

The last three digits of the designator is an identification number within the discipline. Identification numbers within a discipline may be a simple sequence number based on sequence in which documents are developed or may follow a pre-established number with the discipline. Number will be assigned by EI by proponents of the documents and in coordination with CEMP-ET.

CORPS OF ENGINEERS DESIGN GUIDE (DG)

1. DESCRIPTION. Design Guides (DG-series) govern the design of specific types of facilities such as schools, maintenance

shops, physical fitness centers, etc. The design guide covers general criteria, space organization, and other guidance for the planning, design and evaluation of the particular type of facility. The DG may be mandatory or it may be an optional method for preparing a facility design.

2. APPLICABILITY. Design guides are applicable to organizations within the Corps of Engineers.

3. EXPECTED LIFE. Design guides are in force until they are canceled or superseded.

4. PROPONENT. HQUSACE elements.

5. AVAILABILITY. Corps of Engineers Publications Depot, through TECHINFO on the Internet, and the Construction Criteria Base (CCB) compact disk.

6. REVISIONS. Reviewed and revised as needed.

CORPS OF ENGINEERS GUIDE SPECIFICATIONS(CEGS)

1. DESCRIPTION. The Corps of Engineers guide specifications (CEGS) provide technical requirements for construction. CEGSs are adapted into project specifications which are then combined with the drawings, cost estimates, and contract clauses to provide a construction contract. The CEGs are mandatory to the extent that the guide specifications are applicable.

2. APPLICABILITY. Guide specifications are applicable to organizations within the Corps of Engineers.

3. EXPECTED LIFE. Expected life of CEGS is indefinite except that each CEGS is updated continuously and revised as needed.

4. PROPONENT. HQUSACE elements.

5. AVAILABILITY. The CEGS are distributed only in electronic media primarily through TECHINFO on the Internet, and the Construction Criteria Base (CCB) compact disk.

6. REVISIONS. Each CEGS is continuously updated with “notices” to reflect current reference and minor technical or typographic corrections. In addition, each CEGS is reviewed for technical content at 3-year intervals. All revisions are expected to be less than five years old.

7. FUNDING. HQUSACE proponent.

8. NUMBERING. Numbers are assigned by CEHNC-ED-ES (G) in accordance with the Construction Specifications Institute MASTERFORMAT. Example: CEGS-09310, Ceramic Tile.

CORPS OF ENGINEERS ABRIDGED GUIDE SPECIFICATIONS (CEAGS)

1. DESCRIPTION. The Corps of Engineers abridged guide specifications (CEAGS) provide technical requirements for construction of small projects, for repair and maintenance, and for minor elements in larger projects. Like the CEGS, they are adapted into project specifications which are then combined with the drawings, cost estimates, and contract clauses to provide a construction contract. A CEAGS is an optional low-cost alternative to the use of the counterpart CEGS. Users need to be aware that a CEAGS will provide fewer controls (with possible higher risk) than the counterpart CEGS. (It must be noted that the CEAGS are being replaced with Short Form Specs which can automatically be generated through SPECSINTACT software. After development of these short form specs, the CEAGS will no longer be available.)

2. APPLICABILITY. Abbreviated guide specifications are applicable to organizations with the Corps of Engineers.

3. EXPECTED LIFE. Expected life of CEAGS is indefinite except that each CEAGS is updated continuously and revised along with its counterpart CEGS. (A few CEAGS have no CEGS counterpart, and are updated independently).

4. PROPONENT. HQUSACE elements.

5. AVAILABILITY. The CEAGS are distributed only in electronic media primarily through TECHINFO on the Internet, and the Construction Criteria Base (CCB) compact disk.

6. REVISIONS. Revisions and updates parallel and follow similar action to its counterpart CEGS. Where no counterpart exists, the CEAGS is continuously updated with “notices” to reflect current reference and minor technical or typographic corrections in the same manner as a CEGS.

7. FUNDING. HQUSACE proponent.

8. NUMBERING. Numbers are assigned by CEHNC-ED-ES (G) in accordance with the counterpart CEGS and the Construction

Specifications Institute MASTERFORMAT. Example: CEAGS-09310A, Ceramic Tile.

CORPS OF ENGINEERS ARCHITECTURAL AND ENGINEERING INSTRUCTIONS (AEI)

1. DESCRIPTION. The AEI establishes current and uniform criteria and standards for design and development of buildings and facilities at Army installations. The document includes reference materials to be used in the design process, space criteria for buildings, and a system for managing criteria information. The AEI is mandatory for Corps of engineers design of buildings and facilities other than medical facilities. At present, there is an AEI on Design Criteria and Design-Build Instructions. The AEI for medical facilities is available only from CEMP-EM.

2. APPLICABILITY. The AEI is applicable to organizations within the Corps of Engineers for design development and project management of all Army buildings and facilities except medical facilities. Host nation building codes will apply when they are more stringent than the AEI criteria.

3. EXPECTED LIFE. The AEI is periodically reviewed, revised, updated, republished, and distributed by the proponent.

4. PROPONENT. HQUSACE elements.

5. AVAILABILITY. Initial distribution of the AEI was by hardcopy to each USACE Division and District library and engineering division, other USACE field operating activities and each MACOM. The latest version and current updates of the AEI is available through TECHINFO on the Internet.

6. REVISIONS. The AEI is continuously reviewed and revised as needed.

7. FUNDING. HQUSACE proponent.

8. NUMBERING. The AEI has no number.

CORPS OF ENGINEERS LISTING OF TECHNICAL REPRESENTATIVES

1. DESCRIPTION. An Engineer Listing of technical representatives for both the technical manuals and the guide specifications.

2. APPLICABILITY. The listings are applicable to organizations within the Corps of Engineers.

3. EXPECTED LIFE. Expected life is indefinite except that the listings are revised and updated as needed.

4. PROPONENT. HQUSACE elements.

5. AVAILABILITY. TECHINFO on the Internet.

6. REVISIONS. Reviewed and revised as needed.

7. FUNDING. HQUSACE proponent.

8. NUMBERING. The listing has no number.

SOURCES OF DOCUMENTS

Engineering and Design Publications are available from numerous sources as described below:

1. The easiest source to obtain publications would be a simple trip to the technical library of your own office or to the bookshelves of your co-workers. Documents obtained in this fashion should be verified to ensure they are the latest version published.

2. The broadest source of documents is the Construction Criteria Base (CCB) which is a set of CD-ROM discs issued each quarter and containing the complete text and graphics of thousands of documents related to the design and construction of buildings and civil works. Software is built into the system for automatically finding, viewing, printing, searching, and downloading information. Documents on CCB are provided to the National Institute of Building Sciences (NIBS) directly by over 125 participating federal agencies and industry associations. Each Corps office maintains a subscription to the CCB. The POC for NIBS is Pat Broughton at 202-289-7800.

3. Many of the Army and Corps documents are available on the internet by accessing TECHINFO through the CEHNC Homepage at internet address http://www.hnd.usace.army.mil/. The previous pages of this paper describe which documents are available through TECHINFO.

4. The Army Publications Distribution Center and the Corps of Engineers Publications Depot should be used as a last resort to

obtain documents since delays are common for ordering and mailing. This method should be used when large numbers of documents are needed and 6-8 weeks is available prior to receipt. The U.S. Army Publications Distribution Center may be reached at 1655 Woodson Road, St. Louis, MO 63114-6181 (Phone 314-0263-7305). The Corps of Engineers Publications Depot may be reached at 2803 52nd Avenue, Hyattsville, MD 20781-1102 (Phone 301-394-0081).

DOCUMENT FEEDBACK SYSTEM

Engineering and design publications will never be any better than the feedback and lessons learned provided by the users of the documents. The users pull data from the publications to produce clear coherent designs and construction packages. Any problems identified during this process should be conveyed back to the Technical Representative or document proponent identified in TECHINFO. The preferred means used to convey your change suggestions should be by providing an ENG Form 3078 which simply states the problem identified with any document. When received, the 3078 is assigned a number by CEMP and is fully tracked until a resolution is acheived. An automated version of Eng Form 3078 is under development by CEMP and should be avilable in the near future.

The technical representative or document proponent (identified in TECHINFO) can also be notified of any suggested document changes by a simple memorandum, e-mail, or phone call. These methods can successfully generate changes to documents but do not work as well as the 3078 process.

SUMMARY

Engineering and design publications are developed and updated for the benefit of Corps projects and personnel. Your feedback will improve the publications and therefore, produce higher quality and more cost effective designs, project specifications, and construction packages.

AUTHOR’S ADDRESS: U.S. Army Engineering and Support Center
Attn: CEHNC-PM-CR (Doug Wilson)
4820 University Square
Huntsville, Alabama 35816-1822